FOOTHILL MUNICIPAL WATER DISTRICT

2005 URBAN WATER

MANAGEMENT PLAN

FOOTHILL MUNICIPAL WATER DISTRICT
4536 Hampton Road
La Cañada Flintridge, CA 91011

November 2005

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Foothill Municipal Water District
2005 Urban Water Management Plan
Contact Sheet

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The Water supplier is a: **municipal water district**

The Water supplier is a: **wholesale distributor**

Is This Agency a Bureau of Reclamation Contractor? **No**

Is This Agency a State Water Project Contractor? **No**

This Agency is a member of the Metropolitan Water District of Southern California

This Agency is a signatory agency to the Memorandum of Understanding Regarding Urban Water Conservation in California

Chapter 1-

Introduction

A. Purpose and Need

This Urban Water Management Plan (UWMP) was prepared for the Foothill Municipal Water District (FMWD) and submitted to the California Department of Water Resources (DWR) to meet the requirements of the 1984 Urban Water Management Planning Act and all subsequent amendments adopted through December 2004. The act requires urban water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt a UWMP every five years.

The intent of this plan is to provide DWR with information on the present and future water resources and demands and provide an assessment of FMWD's water resource needs. Specifically, the UWMP must provide water supply planning for a 20-year planning period in 5-year increments, identify and quantify adequate water supplies for existing and future demands during normal, dry and drought years, and implement conservation and efficient use of urban water supplies. This is an update to FMWD's 2000 UWMP.

B. Agency Coordination

FMWD has coordinated its UWMP planning efforts with a variety of agencies to ensure that data and issues are presented accurately. To minimize reporting redundancy, water management activities undertaken by FMWD retail purveyors are not discussed in detail in this document, as they are addressed in detail in each of the purveyors' individual UWMPs. Table 1 lists the agencies that have provided coordination with the development of this UWMP.

This UWMP it has been organized and structured as recommended in DWR's guidance manual.

1. Coordination Within the District and Interagency Coordination

FMWD staff met and coordinated the development of this plan with staff from the Metropolitan Water District of Southern California (Metropolitan), a regional wholesaler, and staff from FMWD's member agencies. Metropolitan will adopt its own plan at its November board meeting. Metropolitan and its member agencies have also adopted the Water Surplus and Drought Management Plan (WSDM Plan), an Integrated Resources Plan (IRP) and the Strategic Plan and Rate Structure. The WSDM Plan combined with the IRP establishes broad resource management strategies to ensure 100 percent reliability for non-discounted non-interruptible water demands through 2025. Throughout FMWD's UWMP, we have referenced Metropolitan's reports and Metropolitan's draft Regional Urban Water Management Plan (RUWMP). Metropolitan's WSDM Plan includes extensive research and contains many descriptions, graphs and tables applicable to FMWD's Plan. Importantly, FMWD is 100 percent reliant on Metropolitan as a water source. Although most of FMWD's member agencies have access to groundwater, FMWD does not. Thus, FMWD's water management options are limited in being able to maximize resources and minimize needs to import water. However, FMWD encourages conservation where it can and has entered into a conjunctive use program with Metropolitan to minimize the need for imported water during supply shortages.

- FMWD is a member agency of Metropolitan. All water sources for Metropolitan are shared in common with other urban and agricultural interests in the area.

- Table 1 summarizes the efforts FMWD has taken to include various agencies in its planning process.

Table 1
Coordination and Public Involvement

Check at least one box per row	**Participated in UWMP development**	**Commented on the draft**	**Attended public meetings**	**Contacted for assistance**	**Received copy of draft**	**Sent notice of intention to adopt**	**Not Involved / No Information**
Metropolitan Water District				X	X	X	
FMWD's Member Agencies	X				X	X	
Raymond Basin Management Board					X	X	
ULARA					X		

C. Background

1. Supplier Service Area

a. Formation and Purpose

Incorporated on January 7, 1952, FMWD was formed by voters in the area to help meet the increasing water needs of a rapidly growing population following World War II. Because local well water supplies were limited, a supplemental water source was needed. A group of concerned community leaders determined that membership in Metropolitan was the solution to meeting these local water needs. On January 15, 1953, after receiving overwhelming local voter approval, FMWD officially joined Metropolitan, thus making available supplemental water from the Colorado River and, eventually, from the State Water Project.

During its early years of operation, FMWD supplied less than 20% of the water used within its boundaries. This reliance has increased over the years to the current five-year average of 60% reliance upon imported water. The most dominant feature of FMWD's operation is the intensive pumping required to deliver water to the residents in the communities that are located at the foothills of the San Gabriel Mountains. In some cases, this water must be lifted 1,900 feet in distances of ten miles in order to deliver it to the elevations required by water users.

FMWD's water supply system delivers imported water to supplement local groundwater supplies. The service area covers 21.66 square miles and includes a population of approximately 84,000 people. FMWD, as a water wholesaler, currently serves seven retailing agencies located in three communities. They are:

Retailing Agencies

Crescenta Valley Water District
La Cañada Irrigation District
Las Flores Water Company
Lincoln Avenue Water Company
Mesa Crest Water Company
Rubio Cañon Land & Water Association
Valley Water Company

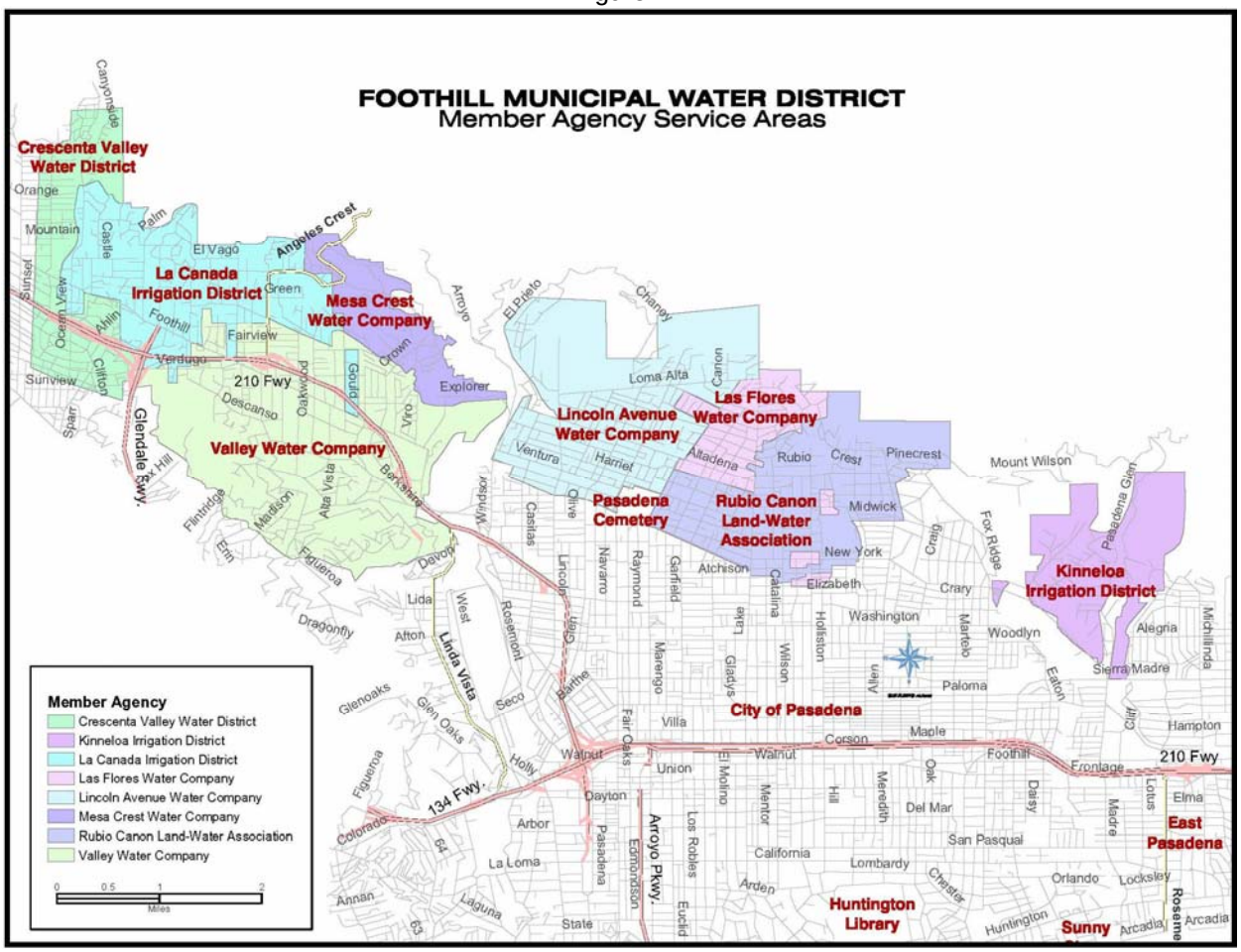
Communities Served

La Crescenta, unincorporated area of Los Angeles County
La Cañada Flintridge, incorporated City
Altadena, unincorporated area of Los Angeles County

An additional retailing agency, the Kinneloa Irrigation District (Kinneloa), is located at the eastern end of FMWD's boundaries. Kinneloa is 100 percent local groundwater and FMWD deliveries to Kinneloa are not anticipated until some time after 2010.

Figure 1 shows FMWD's service area and boundaries.

Figure 1



D. Demographics

Population, climate, dwelling units, and unemployment projections are all tools utilized to project water demands. The following sections provide a discussion on each of these demographics.

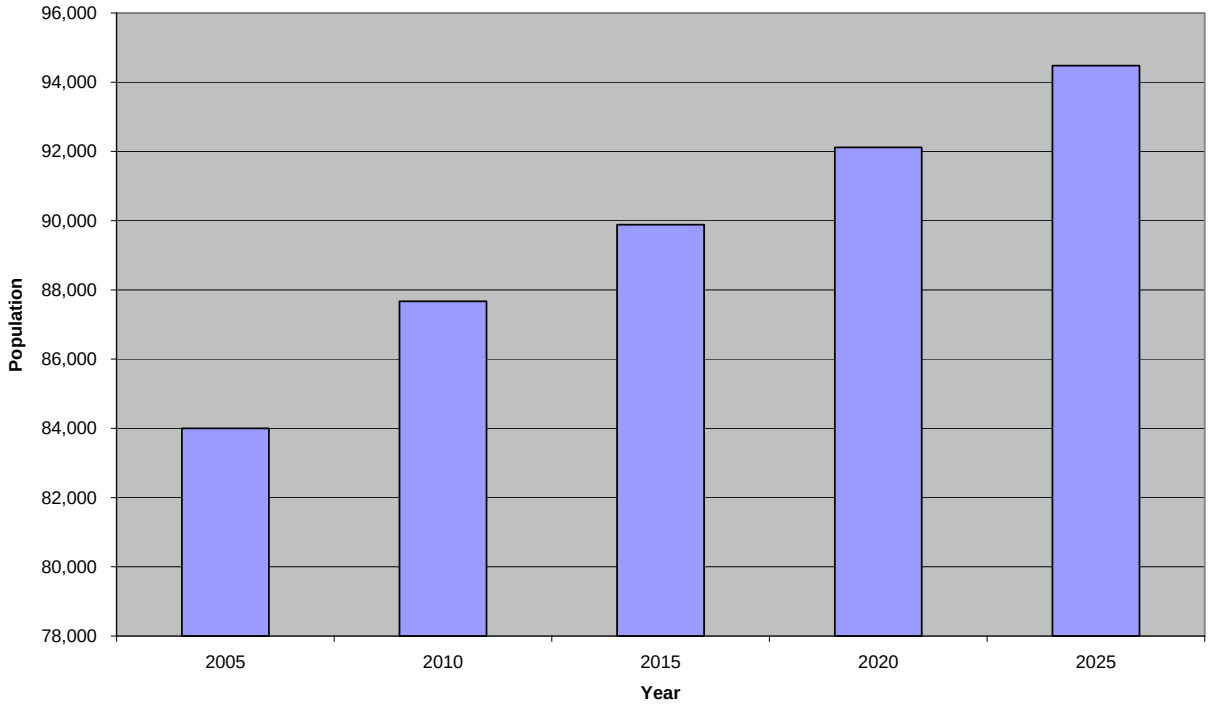
1. Population Projections

Table 2 shows the population total for FMWD from 2005, with projections to 2025. Graphical representation is shown in Figure 2. These figures are derived from the census bureau in coordination with town councils and member agencies. This population is about one percent of Los Angeles County's population. FMWD's population is estimated to grow at a rate of less than 0.5% per year because the area is basically fully developed.

Table 2
Population - Current and Projected

	2005	2010	2015	2020	2025
Service Area Population	84,000	87,671	89,885	92,115	94,482

Figure 2
Foothill Population Projections



2. Climate

FMWD has a Mediterranean climate. Summers are mild and dry, but can also be very hot. Winters are cool, with an annual average of 20 inches of precipitation. The region is subject to wide variations in annual precipitation and is subject to wildfires from time to time.

A substantial deviation from the average annual precipitation was experienced in 2004-05; total rainfall for that year was 56.6 inches.

Table 3.
Climate

Month	Standard Average ETo	Average Rainfall (inches)	Average Temperature
Jan	2.20	4.11	66.9
Feb	2.45	4.52	68.4
Mar	3.64	3.40	70.4
Apr	4.74	1.46	74.0
May	5.31	0.37	76.8
June	6.06	0.15	81.6
July	6.75	0.03	88.6
Aug	6.66	0.11	89.5
Sep	5.01	0.35	87.6
Oct	3.95	0.69	81.1
Nov	2.73	1.87	73.9
Dec	2.31	2.94	67.8
Annual	51.81	20.01	77.2

3. Dwelling Unit Projections

FMWD's area is approximately 90% residential. The area is almost fully developed, but in some areas of the communities, single-family homes are being replaced by multi-residential units. FMWD's population is estimated to grow at a rate of less than 0.5% per year because the area is basically fully developed.

4. Employment Projections

FMWD's service area is only 5% commercial and 5% institutional/government. Jet Propulsion Laboratory, which has its own water system supplied by the City of Pasadena, is a major employer within the service area. In the FMWD service area, 95% of the labor force is employed.

E. Past Drought, Water Demand, and Conservation Information

During drought periods, FMWD has met its customers' needs through special Metropolitan programs including its treated replenishment water or injection water whereby member agencies are given a financial inducement to store water when it is available for extraction during periods of shortage.

In the La Cañada Flintridge area, water demand has increased due to lush landscaping that is often installed on properties where homes have been remodeled and enlarged. Many of these homes have been remodeled to contain more bathrooms than the original construction. In the Lincoln Avenue area, a large housing development has been constructed which has added to water demands. In the Crescenta Valley area, densification is occurring as single family homes are converted to multi-family housing.

The citizens of FMWD's distributing agencies have a high commitment to quality of life and environmental issues and are active participants in resource and planning discussions held by their local government (town council, city council). Water conservation is one of several high priority policies actively implemented in the area, and programs such as residential water audits, ultra-low flush toilet

replacements, high efficiency clothes washers, and landscape water audits are well accepted. Early in 2005, weather-based sprinkler controllers began being offered for residential and commercial rebates.

In June of 2004, a water conservation alert system was put into place in the La Cañada Flintridge and La Crescenta areas. Participating water agencies display an alert status at their offices, reservoirs and various other locations. The “green alert” signifies standard water conservation guidelines. The “yellow alert” calls for minimized outdoor water use. The “red alert” indicates when the agencies may have difficulty meeting peak water demands. The level of alert is tied to water supply levels, the condition of equipment and well operation. The alert system is in effect from mid-June through October unless conditions dictate otherwise.

Chapter 2-

Water Supplies (Sources) and Quality

A. Water Supply Sources

1. Imported Water

FMWD is dependent upon Metropolitan for 100% of its water supply. During the early years of operation, FMWD supplied less than 20% of the water used within its boundaries. This reliance has increased over the years to the current 60% reliance upon imported water. FMWD does not have groundwater supplies of its own. Most of its sub-agencies have access to their own groundwater supplies. Therefore, 60% of the demand in FMWD's service area are wholesale supplies purchased from Metropolitan and the remaining 40% of demand comes from local production. The most dominant feature of FMWD's operation is the intensive pumping required to deliver water to the residents in the communities located at the foothills of the San Gabriel Mountains. In some cases, this water must be lifted 1,900 feet over a distance of ten miles in order to deliver it to the elevations required by water users.

The annual amount purchased from Metropolitan has averaged 12,800 acre feet over the past five years including approximately 900 acre-feet purchased for replenishment purposes. Metropolitan's Upper Feeder is tapped in the vicinity of Seco Street and Rosemont Avenue in the City of Pasadena. Water flows from Metropolitan's system into FMWD's Arroyo Seco Gravity Main which traverses in a northerly direction in the vicinity of Rosemont Avenue and terminates at FMWD's Main Pumping Plant located near Rosemont Avenue and Washington Boulevard in the City of Pasadena.

FMWD received an average of 43-47% Colorado River blended with State Water Project from Metropolitan's Weymouth Treatment Plant. (Metropolitan Annual Drinking Water Quality Report 2005.)

Table 4 reflects FMWD current and projected water supplies. Note that FMWD's member agencies' water supplies are not included in the table. FMWD only purchases water from Metropolitan and delivers it to its member agencies. It does not have groundwater rights and does not produce groundwater, capture surface water or produce recycled water.

Table 4
Current and Planned Water Supplies (AF/Y)

Water Supply Sources	2005	2010	2015	2020	2025
Purchased from Metropolitan	10,253	12,623	14,188	14,768	15,365
Addl purchased from MWD for groundwater recharge	1,457	900	900	900	900
Local production					
Transfers in or out	0	0	0	0	0
Desalination	0	0	0		
Recycled Water	0	0	0	0	0
Exchanges in or out	0	0	0	0	0
Recycled Water used for ground water recharge (adds to gw supply)	0	0	0	0	0
Other	0	0	0	0	0
Total	11,710	13,523	15,088	15,668	16,265

Table 5 reflects supply reliability using historic data for normal, single dry and multiple dry years. These numbers do not include replenishment deliveries since those deliveries may be interrupted due to a supply shortage. Table 6 describes the basis of the water year data shown in Table 5.

Table 5
Supply Reliability AF/Year for Wholesale Demands

		Multiple Dry Water Years			
Average/Normal Water Year	**Single Dry Water Year**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
11,916	12,197	8,351	11,463	11,226	12,197
% of Normal	102%	70%	96%	94%	102%

Table 6
Basis of Water Year Data

Water Year Type	Base Year(s)
Average Water Year	**Five-year average (2001-2005)**
Single Dry Year	**2001-02**
Multiple Dry Years	**1998-1999; 1999-00; 2000-01; 2001-02**

Please note that although during the multiple dry years, Years 1 through 3 are shown as being below normal water deliveries, in reality FMWD met 100% of its agencies demands. The year preceding Year 1, FMWD had higher than average rainfall in its watershed. Thus, demands for imported water were less than average as FMWD's member agencies used local water rather than purchasing imported water. The years used to denote dry years reflect dry years on FMWD's watershed.

a. Regional Water Supply Programs

Metropolitan updated its IRP in 2003. This Plan projects demands and identifies a mix of supplies to meet those demands. These supplies include desalination, recycling, conservation, brackish groundwater recovery and conjunctive use. Metropolitan has financial incentive programs in place for local agencies to develop these supplies. FMWD, as a member agency of Metropolitan, supports these incentive programs and contributes to these financial incentives through its payments for water from Metropolitan.

Metropolitan will continue to monitor and update its IRP targets to meet its Board mandated goal of 100% reliability, 100% of the time.

b. Water Quality Challenges

FMWD's water supply is solely provided by Metropolitan, and its water quality is maintained and governed by Metropolitan. Its water quality strategy is defined in its 2005 RUWMP.

FMWD, as a wholesale agency, does not anticipate groundwater quality challenges because it does not use groundwater as a source of supply.

2. Groundwater

FMWD, as a wholesale agency, does not pump nor are they projected to pump groundwater for future use. FMWD's member agencies produce groundwater to meet demands from two groundwater basins in the service area.

The Raymond Basin underlies much of the Foothill area and three of FMWD's Altadena agencies. Two of its La Cañada Flintridge agencies produce groundwater from the Raymond Basin. Crescenta Valley Water District (CVWD) produces groundwater from the Verdugo Basin.

The majority of the groundwater yield comes from natural recharge. Natural recharge of the groundwater basins is accomplished through the natural percolation of rainfall and stream flow from surface runoff within the watershed. In addition, surface runoff in certain areas is captured and released into spreading basins for additional percolation into the groundwater basins. The Los Angeles County Department of Public Works and the Pasadena Water and Power Water Services Division operate these recharge facilities. Water that would otherwise flow into the Pacific Ocean is allowed to percolate into the underlying aquifers and is later pumped for local use. The Raymond Basin is also recharged with imported supplies by injection. These groundwater basins can be used as large underground storage reservoirs. The basins can provide storage of surplus surface water (local and imported) in wet years. The supplies then can be withdrawn in dry years or during emergency outages of the imported water system.

a. Groundwater Storage Programs and Transfer Agreements

FMWD is in the closing stages of placing into operation a new Conjunctive Use Program whereby additional supplies from Metropolitan will be stored by its member agencies. This program will require the installation of additional delivery capacity to injection wells and the installation of recovery wells and Aquifer Storage and Recovery (ASRs) wells in the service area. FMWD will not be extracting any of this water. Instead, when operational, FMWD's member agencies, collectively, will be able to extract an additional 3,000 acre-feet of water a year from additional storage of 9,000 acre-feet in the local groundwater basin. FMWD is also considering participating in the extension of existing pipeline (the San Gabriel Valley Pipeline) to bring more State Water Project water into the area from the east to the west. This extension would be especially useful to Kinneloa when it finds a need to connect to FMWD's system. The FHCUP is imminent; the pipeline extension is long term.

b. Groundwater Quality

FMWD, as a wholesale agency, does not anticipate groundwater quality challenges because it does not use groundwater as a source of supply.

3. Gravity Water Sources

Four of FMWD's retailing agencies, plus Kinneloa, maintain direct local tunnel water resources from mountain runoff. These resources yielded 565 acre feet in 2004-05. In addition, Lincoln Avenue Water Company and Rubio Cañon Land and Water Association utilize surface water treatment plants to treat canyon runoff water.

4. Recycled Water

The Los Angeles County Sanitation District operates a reclamation plant in the vicinity of the La Cañada Flintridge Country Club, producing approximately 120 acre feet per year. This water is delivered to the golf course for irrigation use. The cost of constructing facilities to deliver recycled water to other areas

within FMWD makes this supply option prohibitive. Mesa Crest Water Company provides other supplemental water to the Country Club as needed.

5. Seawater Desalination

Metropolitan's IRP Update includes a target of up to 150,000 acre feet per year of seawater desalination by 2025. As a first step, Metropolitan issued a competitive request for proposals through its Seawater Desalination Program (SDP). This proposal includes financial assistance from Metropolitan of up to $250 per acre foot per year for 25 years. Five member agencies responded with proposals totaling 142,000 acre-feet of yield by 2015. Although FMWD is not able to directly participate in seawater desalination, it participates indirectly by supporting Metropolitan's program.

6. Transfer and Exchange Opportunities

FMWD has two interties with the City of Pasadena that enable it to exchange water with the City. In addition, FMWD's member agencies have the ability to wheel Raymond Basin water from one agency to another. CVWD also has an emergency connection with the City of Glendale. FMWD is also considering an emergency interconnection with the City of Los Angeles for 2 cfs of supply. Water would be delivered from Los Angeles to CVWD allowing FMWD to reduce or cease deliveries to CVWD and increase deliveries to other agencies within its service area during emergencies.

FMWD would consider third party water transfers if the total costs of such a transaction, including purchase and wheeling costs, warrant such consideration. Metropolitan has stated that it will be 100% reliable and will be using transfer water as part of its strategy to meet that reliability target as described in its WSDM Plan.

7. Projected Water Supplies

Projections shown are based on a combination of (1) projections furnished by each of our agencies and/or (2) FMWD's projection that water and user demands will increase by approximately 0.5% per year. The growth projection for population is also 0.5% per year. FMWD is in a built-out area, accounting for the low growth projections.

The FMWD area is approximately 90% residential, and of that percentage, predominantly single-family residential. FMWD only provides wholesale service to its member agencies and does not provide retail service. Table 7 identifies FMWD's member agencies and the quantity of water delivered to each agency. All water delivered to the member agencies is metered. This water includes water used for groundwater recharge by the member agencies.

a. Residential Sector

In the FMWD area, total system per capita water use averages 233 gallons per day. Because of the predominance of residential property within FMWD area, and the larger-than-average residential lot sizes, FMWD estimates that indoor water use in FMWD's area represents only 40% of total residential use. It is estimated that district-wide, indoor water use ranges between 30-40%, and is projected to increase to 40% or more due to the construction of sewers in the area and smaller homes being replaced with larger homes or multi-unit dwellings on the same lot.

b. Commercial, Industrial, Institutional/Governmental, Landscape/Recreational Sector

Minimal, combined 10% of use.

c. Agricultural Sector

Insignificant.

Table 7-
Sales to Member Agencies – AF/Year

Water Distributed	2000	2005	2010	2015	2020	2025
Crescenta Valley Water District	2,067	2,252	2,553	2,841	3,144	3,463
Kinneloa Irrigation District	0	0	0	1,000	1,000	1,000
La Canada Irrigation District	2,996	2,664	3,080	3,204	3,328	3,453
Las Flores Water Company	738	640	781	792	802	813
Lincoln Avenue Water Company	1,147	1,055	1,556	1,599	1,643	1,687
Mesa Crest Water Company	712	686	745	766	787	808
Rubio Canon Land & Water Association	995	1,054	1,272	1,289	1,306	1,323
Valley Water Company	3,328	3,359	3,536	3,597	3,658	3,718
Total	11,983	11,710	13,523	15,088	15,668	16,265

Table 8 below shows additional water uses. Please note that the only other regular additional water use is for normal system losses. As a wholesale agency, FMWD's unaccounted for water is confined to normal system losses and meter errors whereby Metropolitan meters measuring deliveries to FMWD and FMWD meters delivering to its member agencies are not exactly synchronized. This can be seen in the negative

losses in Table 8 for 2005. System losses from leakage have been substantially minimized and are insignificant. The district has an ongoing leak detection program within its distribution system.

Please also note that although the FMWD is placing into operation a new Conjunctive Use Program, (Foothill Conjunctive Use Program FHCUP) that water will be extracted from storage in-lieu of surface deliveries from Metropolitan. Thus, there will not be any additional water use but one source will be substituted for another.

Table 8 -
Additional Water Uses – AF/Year

Water Use	2000	2005	2010	2015	2020	2025
Unaccounted – for system losses	32	(60)	50	50	50	50

Table 9 provides the totals for Tables 7 and 8.

Table 9-
Total Water Uses-AF/Year

Water Use	2000	2005	2010	2015	2020	2025
Sum of Tables 7 & 8	12,015	11,650	13,573	15,138	15,718	16,315

8. Water Sources Not Available on a Consistent Basis

FMWD depends entirely on Metropolitan Water District of Southern California for its water supplies. Metropolitan, as documented in its WSDM Plan and 2003 IRP Update has addressed the inconsistency of water supplies from the State Water Project and Colorado River by developing various programs so that it is 100% reliant.

Chapter 3-

Demand Management Measures

FMWD is committed to implementing water conservation and water recycling programs. This Section discusses how FMWD is implementing demand management measures/best management practices.

FMWD is a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California (MOU) and is therefore a member of the California Urban Water Conservation Council (CUWCC). The following are just some of the benefits of being a member of the CUWCC: conferences, BMP workshops, free publications, research regarding water management practices, leadership on water legislation and networking with other agencies and interest groups.

Members of the CUWCC

For the purpose of responding to the Urban Water Management Planning Act, FMWD will address the 14 Best Management Practices. Descriptions of FMWD's water conservation programs are below. FMWD has, in good faith, tried to address and comply with all of the BMP targets listed in the CUWCC MOU where applicable.

BMP 1 – Water Survey Programs for Single-Family and Multi-Family Residential Customers

IMPLEMENTATION DESCRIPTION: This BMP is not applicable to wholesalers. FMWD, as a wholesaler, does not provide direct service to the public, but does provide wholesale deliveries to local retailing agencies. FMWD does provide any support possible to local agencies in conducting water audits on such property.

BMP 2 – Residential Plumbing Retrofit

IMPLEMENTATION DESCRIPTION: This BMP is not applicable to wholesalers; however, FMWD participates in the distribution of showerheads, aerators, and toilet tank leak detection tablets at all times. In 1999, FMWD and its distributing member agencies implemented an agreement with Metropolitan for participation in a residential ultra-low-flush toilet retrofit and a commercial/industrial/institutional (CII) retrofit incentive project. This conservation credits program is designed to assist member agencies in conserving water supplies. Through FMWD, Metropolitan refunds $60 per ultra-low-flush toilet installed. Various other CII fixtures are also eligible for funding.

FMWD also works with the local planning department of the city of La Cañada Flintridge to assure enforcement of the ultra low-flush toilet installation requirements for new construction and supports the prohibition of sale of toilets using more than 1.6 gallons per flush.

BMP 3 -- System Water Audits, Leak Detection and Repair

IMPLEMENTATION DESCRIPTION: FMWD monitors/audits water loss in its distribution system on a daily basis

METHODS TO EVALUATE EFFECTIVENESS: Daily analysis of water produced versus water delivered is conducted providing a daily audit of losses. FMWD maintains a distribution system water loss factor of less than 1%.

CONSERVATION SAVINGS: Not applicable.

BMP 4 -- Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

IMPLEMENTATION DESCRIPTION: This BMP is not applicable to wholesalers; however, all water deliveries by FMWD, as well as deliveries by each of its distributing agencies, are metered deliveries, using commodity rate components based on metered readings and established rate schedules developed by FMWD.

BMP 5 -- Large Landscape Conservation Programs and Incentives

IMPLEMENTATION DESCRIPTION: This BMP is not applicable to wholesalers; however, FMWD and its distributing agencies have sponsored attendance and will sponsor attendance at landscape water use classes, seminars. FMWD will also assist its member agencies in the education of homeowners regarding the broader use of drought-tolerant landscape. The latest addendums to the agreement with MWD include weather-based controllers and a landscape water use efficiency program for large landscapes. The district supports Metropolitan's *California Friendly* landscape education program.

BMP 6 – High-Efficiency Washing Machine Rebate Programs

IMPLEMENTATION DESCRIPTION: This BMP is not applicable to wholesalers; however, FMWD has also implemented an agreement with Metropolitan for participation in a high efficiency clothes washer incentive program. Through FMWD, Metropolitan refunds $100 per high efficiency clothes washer.

BMP 7 -- Public Information Programs

IMPLEMENTATION DESCRIPTION: FMWD promotes water conservation and other resource efficiencies in coordination with Metropolitan. FMWD distributes public information directly to the public or through our retailing agencies providing literature, brochures, posters, videos, etc. FMWD also maintains a library of water resource education conservation films and videos for loan to local organizations. We also provide speakers to various groups upon request.

IMPLEMENTATION SCHEDULE: FMWD will continue to provide public information services and materials to remind the public about water and other resource issues.

BMP 8 -- School Education Programs

IMPLEMENTATION DESCRIPTION: FMWD makes information/literature available to local school districts for utilization in local curriculum. The district also supports Metropolitan's extensive in-class education program for specific grade levels.

BMP 9 -- Conservation Programs for Commercial, Industrial, and Institutional Accounts

IMPLEMENTATION DESCRIPTION: This BMP is not applicable to wholesalers. FMWD has only very light commercial and no industrial water use within its boundaries. Local schools and churches within our

distributing agencies' areas would qualify as institutional accounts. In 1999, FMWD and its distributing member agencies implemented an agreement with Metropolitan for participation in a commercial/industrial/institutional (CII) retrofit incentive project. This agreement was renewed in June 2005. This conservation credits program is designed to assist member agencies in conserving water supplies. Various other CII programs are eligible for funding.

BMP 10 – Wholesale Agency Assistance Programs

IMPLEMENTATION DESCRIPTION: FMWD provides financial incentives, or equivalent resources, as appropriate and beneficial to our distributing retail agencies to advance water conservation efforts and effectiveness.

CONSERVATION SAVINGS: FMWD does not quantify the savings of this BMP.

BMP 11 -- Conservation Pricing

IMPLEMENTATION DESCRIPTION: FMWD water rates are primarily commodity based, with no declining block for high water use. For the last three calendar years, FMWD has had to pass Metropolitan's Tier 2 charges on to some of its agencies due to their individual high demand. With Metropolitan's Tier 2 rate, a premium is paid for water used greater than 90% of a historical number established in Metropolitan's rate structure.

METHODS TO EVALUATE EFFECTIVENESS: FMWD has no method to evaluate the effectiveness of this BMP.

CONSERVATION SAVINGS: FMWD does not quantify the savings of this BMP.

BMP 12 – Conservation Coordinator.

IMPLEMENTATION DESCRIPTION: FMWD has designated the administrative manager as FMWD's water conservation coordinator. This is not a full-time position but time is devoted to coordination and oversight of conservation programs, particularly with Metropolitan and BMP implementations. The preparation of the CUWCC report is this person's responsibility. The coordinator coordinates Metropolitan's programs among FMWD's distributing agencies.

METHODS TO EVALUATE EFFECTIVENESS: FMWD has no method to quantify the savings of this BMP but believes that this program is in the public's interest.

BMP 13 -- Water Waste Prohibition

IMPLEMENTATION DESCRIPTION: This BMP is not applicable to wholesalers; however, FMWD supports measures prohibiting gutter flooding, single pass cooling systems in new connections, nonrecirculating systems in all new conveyer car wash and commercial laundry systems, and nonrecycling decorative water fountains.

FMWD also supports efforts to develop state law regarding exchange-type water softeners that would:

1. allow the sale of only more efficient, demand-initiated regenerating (DIR) models;
2. develop minimum appliance efficiency standards that a) increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used; and b) implement an identified maximum number of gallons discharged per gallon of soft water produced;

3. allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.

4. FMWD encourages including water softener checks in home water audit programs and supplies brochures, as available, that include information about DIR and exchange-type water softener.

CONSERVATION SAVINGS: FMWD does not quantify the savings of this BMP.

BMP 14 – Residential ULFT Replacement Programs

IMPLEMENTATION DESCRIPTION: This BMP is not applicable to wholesalers; however, FMWD (and thus its distributing agencies) and Metropolitan have an agreement for participation in a Residential Ultra-Low-Flush Toilet Retrofit and a Commercial/Industrial/Institutional (CII) Retrofit Incentive Project. Rebates of $60 per ULF toilet is offered along with funding for other items under the CII program.

Table 10
ULFT Retrofit Program

Year	# of ULFT Retrofits
2000	382
2001	212
2002	158
2003	284
2004	158
2005	140
2006	100e
2007	100e
2008	100e
2009	100e
2010	100e
e = estimate	

METHODS TO EVALUATE EFFECTIVENESS: FMWD has no method to quantify the savings of this BMP but believes that this program is in the public's interest.

CONSERVATION SAVINGS: FMWD does not quantify the savings of this BMP.

ADDITIONAL CONSERVATION PROGRAMS

Landscape Program and Residential Weather Based Irrigation Controller Rebate. Weather-based irrigation controllers is a rapidly evolving conservation technology. FMWD uses Metropolitan's funding incentives.

Professional Protector del Aqua. Through Metropolitan, FMWD can request classes on efficient landscape water management for the public.

Southern California Heritage Program. Through Metropolitan, FMWD continues to participate in a public outreach campaign targeting outdoor water use.

Chapter 4-

Future Water Supply Projects and Programs

FMWD is embarking on a Master Planning initiative. Once that Master Plan is complete we will detail future water supply projects and programs that may be developed. The following information will be developed as part of the process:

1. Identification of projects,
2. Yield or water savings
3. Cost
4. Benefit, and
5. Implementation schedule

These projects and programs will be included in the next update of UWMP. Projects that will be reviewed include recycled water and the San Gabriel Valley Pipeline extension discussed previously.

A. Desalination

FMWD does not have opportunities to directly develop desalinated supplies. It does not border the ocean and cannot participate directly in ocean desalination. Additionally, neither the Raymond Basin nor Verdugo Basin contain brackish groundwater. Thus, FMWD is unable to participate in the desalination of brackish groundwater. However, FMWD supports Metropolitan's Local Resources Program which provides incentives to its member agencies of up to $250 per acre-foot for the production of desalinated ocean water or brackish groundwater.

Chapter 5-

Water Reliability

A. Reliability

FMWD's mission is to reliably deliver quality water to its member agencies in a cost-efficient manner to meet their projected demands. FMWD has taken steps to ensure that it is meeting its mission including projecting demands and reviewing probabilities of supply shortages.

In addition to climate, other factors that can cause water supply shortages are earthquakes, chemical spills, and energy outages at treatment and pumping facilities. FMWD includes the probability of catastrophic outages when using the reliability planning approach.

Reliability planning requires information about: (1) the expected frequency and severity of shortages; (2) how additional water management measures are likely to affect the frequency and severity of shortages; (3) how available contingency measures can reduce the impact of shortages when they occur.

Metropolitan's IRP and WSDM Plan will be used to direct Metropolitan's resource operations to help attain the region's 100% reliability goal. As such, FMWD provides Metropolitan with demand information for its planning efforts. Table 11 below reflects FMWD's projections provided to Metropolitan.

Table 11
Agency Demand Projections
Provided to Wholesale Suppliers – AF/Y

Wholesaler	2010	2015	2020	2025
Metropolitan	13,523	15,088	15,668	16,265

Based on meeting the IRP goals along with the supply buffer that Metropolitan has planned for, it is expected that FMWD through Metropolitan will be able to meet all of its demands during normal, single dry and multiple dry years. Please refer to Metropolitan's IRP and UWMP for a complete discussion of these sources of supply.

The following table reflects Metropolitan's projected wholesale reliability for an average year. The table is from Metropolitan's draft RUWMP, page II-14.

Table 12
Average Year
Supply Capability[1] & Potential Reserve or Replenishment
(Average of 1922-2004 Hydrologies)
(acre-feet per year)

	2010	2015	2020	2025	2030
Current Supplies					
Colorado River Aqueduct[2]	711,000	678,000	677,000	677,000	677,000
California Aqueduct[3]	1,772,000	1,772,000	1,772,000	1,772,000	1,772,000
In-Basin Storage	-	-	-	-	-
Supplies Under Development					
Colorado River Aqueduct	-	-	-	-	-
California Aqueduct	185,000	185,000	240,000	240,000	240,000
In-Basin Storage	-	-	-	-	-
Transfers to Other Agencies	-	(35,000)	(35,000)	(35,000)	(35,000)
Metropolitan Supply Capability	*2,668,000*	*2,600,000*	*2,654,000*	*2,654,000*	*2,654,000*
Metropolitan Supply Capability w/CRA Maximum of 1.25 MAF[4]	*2,668,000*	*2,600,000*	*2,654,000*	*2,654,000*	*2,654,000*
Firm Demands on Metropolitan[5,6]	*2,040,000*	*2,053,000*	*1,989,000*	*2,115,000*	*2,249,000*
Potential Reserve & Replenishment Supplies	**628,000**	**547,000**	**665,000**	**539,000**	**405,000**

[1]Represents supply capability for resource program under listed year type.
[2]Colorado River Aqueduct includes water management program supplies conveyed by the aqueduct.
[3]California Aqueduct includes Central Valley transfers and storage program supplies conveyed by the aqueduct.
[4]Maximum CRA deliveries limited to 1.25 MAF including SDCWA IID Transfer supplies and Coachella and All-American Canal's lining supplies.
[5]Based on SCAG 2004 RTP,SANDAG 2030 forecasts, projections of member agency existing and contracted active conservation and local supplies, remaining regional targets for active conservation and local supplies. SDCWA/IID Transfer supplies and Coachella and All-American Canals lining supplies.
[6]Includes projected firm sales plus 70% of projected IAWP agricultural sales.

As noted, during an average year Metropolitan has enough supplies to meet all demands with water in reserve should it be necessary.

B. Water Quality Impacts on Reliability

FMWD's water supply is solely provided by Metropolitan and its water quality is maintained and governed by Metropolitan. Its water quality strategy is defined in its RUWMP of 2005.

C. Frequency and Magnitude of Supply Deficiencies

Since FMWD started delivering supplemental water to its seven distributing agencies, it has never experienced an actual supply deficiency. On two occasions, voluntary cutbacks in supplemental demands were implemented. These cutbacks occurred to help mitigate the severe effects of the 1976-77 and the 1990-91 droughts and were done in harmony with Metropolitan's conservation program.

In addition, during the 1990-91 drought, FMWD adopted a resolution urging all water users to voluntarily reduce their water consumption by at least 10%. This resolution, along with a cover letter, was sent to the three local chambers of commerce and one city council in the area urging their endorsement of the provisions of this resolution. Local newspaper articles were also helpful.

D. Plans to Assure a Reliable Water Supply

FMWD is reliant upon Metropolitan for 100 percent of its supply. Metropolitan's WSDM Plan details their basis for attaining a 100% reliability goal for the next ten years. The 2003 Integrated Water Resources Plan Update (IRP) report establishes Metropolitan's regional targets for the development of water resources. In addition, potential elements to reduce the use of imported water in the FMWD service area include water conservation, expanded use of groundwater basin supplies (Foothill Area Groundwater Storage Project) and the use of recycled water.

FMWD can deliver over 20,000 afy with a peak capacity of 33-cfs with its existing facilities to meet current demands. This capacity will soon be expanded so that FMWD will be able to meet peak day demands up to 40-cfs. With this expanded pump capacity, FMWD will be able to deliver to its service area over 25,000 afy. This will increase opportunities for conjunctive use and long term reliability.

E. Water Supply Shortage Stages and Conditions

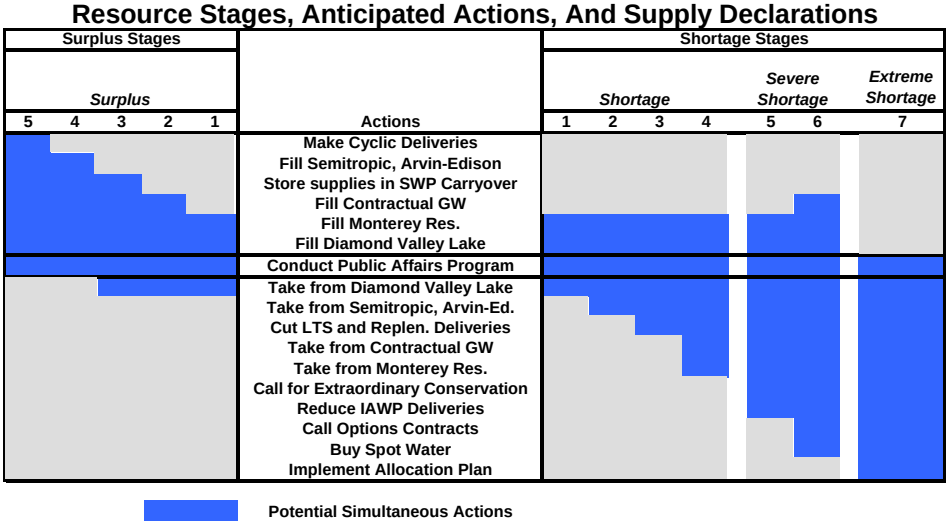
FMWD's water supply shortage stages will reflect Metropolitan's WSDM Plan. The following description of shortage stages is from Metropolitan's draft RUWMP, page II-17.

"When Metropolitan must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. Under most of these stages, it is still able to meet all end-use demands for water. For shortage stages 1 through 4, Metropolitan will meet demands by withdrawing water from storage. At shortage stages 5 through 7, Metropolitan may undertake additional shortage management steps, including issuing public calls for extraordinary conservation, considering curtailment of Interim Agricultural Water Program deliveries in accordance with their discounted rates, exercise water transfer options, purchase water on the open market.

At shortage stage 7 Metropolitan will develop a plan to allocate available supply fairly and efficiently to full-service customers. The allocation plan will be based on the Board-adopted principles for allocation. Metropolitan intends to enforce these allocations using rate surcharges. Under the current WSDM Plan, the surcharges will be set at a minimum of $175 per af for any deliveries exceeding a member agency's allotment. Any deliveries exceeding 102% of the allotment will be assessed a surcharge equal to three times Metropolitan's full-service rate."

The figure below reflects Metropolitan's WSDM Plan for both supply surplus and shortages.

Figure 3
Resource Stages, Anticipated Actions, And Supply Declarations



Source: http://mwdh2o.com/mwdh2o/pages/yourwater/ruwmp_planning_future.pdf

"Metropolitan will declare a shortage whenever water supply conditions require resource management activities included in Shortage Stages 1-4. Metropolitan will declare a Severe Shortage if supply conditions require undertaking actions in Shortage Stages 5-6. Finally, Metropolitan will declare an Extreme Shortage if Shortage Stage 7 actions are required. The overriding goal of the WSDM Plan is to never reach Shortage Stage 7, an Extreme Shortage. Given present resources, Metropolitan fully expects to achieve this goal over the next twenty five years."[1]

Until such time that Metropolitan goes into any type of mandatory rationing, FMWD will remain in voluntary conservation mode only exercising the FHCUP -- once operational -- when asked to do so by Metropolitan. Once and if Metropolitan begins mandatory rationing, FMWD will pass through the percentage cutback Metropolitan applies to its member agencies based on historic water use or some other plan agreed to by the FMWD board of directors and in consultation with FMWD's member agencies.

Table 13
Water Supply Shortage Stages and Conditions

Stage No.	Water Supply Conditions	% Shortage
I	Metropolitan has implemented extraordinary conservation	Voluntary Conservation
II	Metropolitan implements mandatory conservation	Pass-through Metropolitan Percentage Reduction

[1] The Metropolitan Water District of Southern California, Draft 2005 Regional Urban Water Management Plan, page II-17.

F. Three Year Minimum Water Supply

Based on Metropolitan's IRP and WSDM Plan, FMWD expects to meet all demands for a three-year period and does not foresee the need to establish a minimum supply.

1. Water Shortage Emergency Response

FMWD has developed an Unusual Occurrence Manual to ensure the most effective use of all FMWD resources for the benefit and protection of facilities and employees, in addition to the preservation of a reliable water supply for FMWD and its distributing agencies.

FMWD has standby emergency generators located at its pump stations and Operations Center/Office. These generators can run from 8-10 hours.

FMWD has two emergency by-pass systems. One is located at the Main Pump station with a maximum flow of 8.0 cfs. Metered water gravity flows from the Altadena reservoirs to the La Cañada reservoirs via the 16" by-pass. The second by-pass is located at the Berkshire Pump Station with a maximum flow of 3.5 cfs. Metered water flows via an 8" by-pass from the La Crescenta reservoirs to the La Cañada reservoirs.

FMWD has an emergency portable pump located at the Main Pump Station that is attached to the by-passes. Water from the La Cañada reservoirs can be pumped up to the Altadena reservoirs. Also, water from Metropolitan can be pumped to either the Altadena or La Cañada reservoirs.

FMWD recognizes the importance of the BMPs in reducing water demand and will continue to implement the programs during normal supply periods. Also, FMWD and its distributing agencies would increase media attention to the water supply situation during a shortage and would step up public water education programs as well as continuing to advertise the importance to customers of installing ULF plumbing fixtures and outdoor conversation methods.

2. Supplemental Water Supplies

In addition to Metropolitan's WSDM Plan, to help offset future potential water shortages due to drought or disaster, FMWD considers the following as supplemental water supplies:

a. Emergency Water Interconnections

FMWD has two emergency water interconnections with the City of Pasadena. One can provide a flow of 10 cfs to FMWD. The second connection is for furnishing water to Pasadena.

Additionally, there is an emergency connection between the City of Glendale and CVWD. FMWD is also considering constructing an emergency connection with the City of Los Angeles which would be able to provide 2 cfs flows to CVWD allowing FMWD to reduce or interrupt deliveries to CVWD and increase or maintain flows to other member agencies.

b. Water Transfers

See the Water Transfers section.

c. Long Term Additional Water Supply Options

See Metropolitan's WSDM Plan on Integrated Resources Planning.

d. Conjunctive Use Programs

Historically, imported water has been stored through various programs in the Raymond Basin. Currently, conjunctive use is being implemented through two separate Metropolitan programs:

1. Replenishment Service
2. Foothill Conjunctive Use Program

Five FMWD agencies have participated in their own storage programs in the Raymond Basin through Metropolitan's replenishment program (previously called the Seasonal Storage Service Program). This water is stored primarily through the in-lieu process; using imported water instead of pumping water out of the groundwater basin. To date, these agencies have accumulated approximately 2,800 acre feet in local agency storage.

Additionally, Valley Water Company has installed two injection wells that can be used to add water to storage. Valley has been amenable to FMWD's other agencies using these injection wells to store water in the Raymond Basin as well. Lincoln Avenue is scheduled to have an injection/extraction well on line within year's end. Also, La Cañada Irrigation District has an injection well constructed but needs the piping to be able to inject water when available. The piping will be constructed as part of the FHCUP.

Agreements were signed in 2004 to implement the Foothill Conjunctive Use Program (FHCUP). This allows Metropolitan to store 9,000 acre feet in the Monk Hill portion of the Raymond Basin and benefit FMWD agencies. This water is stored in a normal or wet year and will be produced during a supply shortage as required by Metropolitan. Water may also be stored by in-lieu means with FMWD's agencies. To date, more than 2,000 acre-feet has been stored in the FHCUP account.

G. Water Shortage Contingency Ordinance/Resolution

1. FMWD Water Shortage Response

FMWD adopted a program of voluntary water conservation to reduce water consumption by 10% in 1988 (Resolution No. 517-0688) and again in 1994 adopting a program of voluntary water conservation to reduce water consumption, again by 10% (Resolution No. 533-0490).

2. Mandatory Prohibitions on Water Wasting

The previously mentioned resolutions addressing reduction of water consumption includes no water wasting measures, such as not hosing down driveways, patios, sidewalks, etc; not allowing hoses to run while washing the car; use of low water demand trees and plants; avoiding large turf areas. Table 14 reflects examples of consumption reduction methods and how they apply to FMWD.

Table 14 Consumption Reduction Methods		
Examples of Consumption Reduction Methods	**Stage When Method Takes Effect**	**Projected Reduction (%)**
Demand reduction program	Not applicable	
Reduce pressure in water lines	Not applicable	
Flow restriction	Not applicable	
Restrict building permits	Not applicable	
Restrict for only priority uses	Not applicable	
Use prohibitions	Not applicable	
Water shortage pricing	Not applicable	
Per capita allotment by customer type	Not applicable	
Plumbing fixture replacement	On-going	
Voluntary rationing	On-going	
Mandatory rationing	Not applicable	
Incentives to reduce water consumption	On-going	
Education Program	On going	
Percentage reduction by customer type	Not applicable	

3. Excessive Use Penalties

Not applicable to FMWD unless implemented by Metropolitan.

H. FMWD Water Shortage Response/Priority by Use

The mission of FMWD is to reliably deliver quality water to its member agencies in a cost efficient manner to meet their projected demands. Water shortage contingency planning and response is essential to meeting the mission of FMWD. To meet the Mission, FMWD made a decision to participate in a Conjunctive Use Program (CUP) with MWD. This CUP stores 9,000 acre feet of imported surplus surface water in the Monk Hill Sub Basin within FMWD service area as a drought proofing water supply. This water is callable by MWD during dry years.

FMWD's water shortage contingency response starts with voluntary conservation and escalates to mandatory cutbacks in deliveries for FMWD member agencies. FMWD will use a staged plan to address water shortages and will follow stages designated by MWD, its source supplier. MWD has adopted the Water Supply and Drought Management (WSDM) Plan to address the various responses or actions to be taken with respect to the severity of shortages. FMWD will use increasingly aggressive voluntary measures for all stages of MWD WSDM Plan except for the final stage. The final stage of the MWD WSDM Plan is supply allocation whereby MWD will limit water deliveries amongst its member agencies. The mandatory FMWD cutbacks in supply will follow MWD cutbacks. To address the supply allocation limits established by MWD in its final stage of shortage response, FMWD will use an existing Ordinance to allocate supply amongst its retail agencies.

FMWD 4 improvement districts are comprised of the retail agencies. FMWD Ordinance No. 6 established water delivers amongst these 4 improvement districts. The water deliveries to each improvement district are in percent of capacity. Should MWD have mandatory cutbacks that limit supplies, FMWD will use the establish percentages of delivery capacity designated in Ordinance No. 6 for each improvement district to prorate water supplies per the MWD allocation under its WSDM Plan. The California Water Code establishes Health and Safety as the top priority use during water shortages. This mandatory delivery reduction in conjunction with the limited local supplies should be sufficient to meet the Health and Safety demand requirements of 6400 afy based on the 68 gpcd for the 84,000 residents within the FMWD service

area.

I. Reduction Measuring Mechanism

a. Mechanism to Determine Reductions in Water Use

Under normal water supply conditions, wholesale water production figures are recorded daily. Totals are available daily to management. Totals are reported monthly to the board of directors in the monthly financial and sales records report. Actual water use can be compared to historical use data to measure and ensure reductions in total water use.

J. Revenue and Expenditure Impacts and Measures to Overcome Impacts

FMWD board adopted a Reserve Policy in January 2005. This policy determines the desired level of reserve funds to be maintained to provide funds during emergency and other conditions. See Appendix C.

The use of these reserves allow FMWD to minimize rate shock when revenues decrease due to lower water sales because of a water shortage or emergency. The reserves also allow FMWD to minimize rate shock when expenditures increase due to a water shortage or emergency. Over the long term FMWD is able to increase rates moderately to build up these reserves once they have been used.

Chapter 6-
Water Recycling

A. Wastewater System Description

1. Los Angeles County Sanitation Districts

Wastewater collection and treatment systems are not applicable to FMWD, since they do not use recycled water as a supply. Rather, the County Sanitation Districts of Los Angeles (LACSD) handle the wastewater system.

The (LACSD) are a confederation of 26 separate districts working cooperatively to meet the water pollution control and solid waste management needs of approximately five million people in Los Angeles County. The County Sanitation Districts which provide wastewater services within the FMWD service area are Districts 16 (Pasadena), 17 (Altadena), 28 (the area of La Cañada Flintridge surrounding the La Cañada Country Club), and 34 (the remainder of La Cañada Flintridge). Of these districts, only District 28 provides local wastewater treatment.

The District 28 Water Reclamation Plant (also known as the La Cañada Water Reclamation Plant or the Lanterman Treatment Plant) is a secondary wastewater treatment plant with a capacity of 200,000 gallons per day. The plant provides wastewater treatment for the residential area around the La Cañada Flintridge Country Club and presently treats about 100,000 gallons per day. The treated effluent is discharged into ponds at the country club and is then pumped and used for irrigation of the fairways and greens. Disinfected secondary effluent meets the regulatory requirements for controlled access golf course irrigation but not for landscape irrigation.

The 100,000 gallons per day of effluent are adequate to meet the irrigation needs in the cooler months although Mesa Crest Water Company (FMWD distributing agency) provides supplemental water to the ponds during the warmer summer months.

The District 28 Plant is the most expensive to operate in all of the LACSC water reclamation facilities and there have been a number of investigations into alternative facilities that would allow for the abandonment of the facility. The most recent of these has resulted in the construction of a sewer to the northwest beyond Jet Propulsion Laboratory which would allow for the discharge of raw wastewater from the plant's service area into the LACSD Joint Outfall System through the City of Pasadena's Linda Vista Trunk sewer. At present, LACSD only plans for the discharge of sludge from the District 28 plant into this line as they recognize the value of the effluent as a water resource for the golf course. (source: Preliminary Reclamation Assessment report by Morris Water Resources Consultants)

The remainder of the wastewater collected goes to either LACSD's Whittier Narrows Water Reclamation Plant in El Monte or LACSD's Joint Water Pollution Control Plant in Carson. LACSD does not monitor the amount of wastewater collected from the areas but only measures the amount of wastewater that enters the plants. Also, LACSD has no way of quantifying the percentage of flow from each city as it enters the treatment plants.

2. Potential Opportunities for Connection to Other Agencies Proposed Reclaimed Water Systems

A review of the proposed Glendale and Pasadena systems indicates a number of potential locations for connection by FMWD. The Glendale system has a 16-inch pipeline that terminates on La Crescenta Avenue northwest of Verdugo Road. In Glendale's planning they have identified potential extensions to the northwest which would be towards CVWD's (FMWD distributing agency) service area and to the northeast which would be towards the LCID (FMWD distributing agency) service area. This portion of the Glendale system floats off their 310,000 gallon Freeway Tank with a high water level of 1435 feet. It would not require a great deal of pumping to bring this source of supply to adequate service pressure for either CVWD or LCID. (source: Preliminary Reclamation Assessment report by Morris Water Resources Consultants)

3. Recycled Water Currently Being Used

In FMWD's 2000 UWMP it was projected that 120 acre-feet would be used in 2005. That 120 acre-feet is being used by La Cañada Flintridge Country Club. It is projected that this use will stay constant through 2025. Please note that FMWD is not involved in the recycling or distribution process of this water.

4. Recycling Plan and Potential Customers

FMWD in association with Crescenta Valley Water District, La Canada Irrigation District and Valley Water Company obtained the services of Bookman-Edmonston to investigate the feasibility of providing recycled water to various users within the service area. Table 4-1 of the study reflects potential users of recycled water. These were identified as customers using more than five acre-feet of water per year and included such customers as car washes and schools. Of the customers identified, Caltrans is the largest customer with average deliveries of 156 acre-feet per year. Two alternatives were identified: serving only to Caltrans or serving to an Enlarged Market that includes customers close to the pipelines for Caltrans service. The cost of serving only Caltrans would be $2,585 per acre-foot. The cost to serving the Enlarged Market would be $1,771 per acre-foot. The retail price for potable water in the area varies from about $750 to $1,000 per acre-foot. Thus, the price of recycled water makes it uneconomical at this time to further develop this supply.

B. Encouraging Recycled Water Use

Metropolitan through its Local Resources Program encourages the use of recycled water by providing a financial incentive of up to $250 per acre-foot on each acre-foot of recycled water used. FMWD supports this program for the region. However, because of the economics as discussed above, the cost even with this financial incentive is too much for further development of recycled water use. However, as part of its Master Plan, FMWD will again explore this supply option.

1. Marketing Strategy

FMWD recognizes that broad public acceptance of recycled water requires education and public involvement. FMWD has conducted no surveys among its distributing agencies regarding using recycled water for landscape, industrial, groundwater recharge, and wildlife habitat enhancement purposes.

2. Proposed Actions to Encourage Use of Recycled Water

Currently, no proposed actions to encourage use of recycled water. However, FMWD will be exploring recycled water use in its Master Plan.

C. Recycled Water Optimization Plan

1. Plan for Optimizing the Use of Recycled Water

As stated previously in this report, the FMWD board of directors would explore with the cities of Pasadena and Glendale incorporating their system connections into our area in the future should it become economically viable.

Chapter 7-
Water Quality Impacts on Supplies

Foothill takes delivery of its entire water supply at an existing single connection along the Metropolitan Water District (MWD) of Southern California's Upper Feeder. MWD treats the water provided to FMWD at the F.E. Weymouth treatment plant located in La Verne, CA. The F.E. Weymouth filtration plant is a conventional treatment plant with a capacity to treat up to 520 millions gallons per day.

The Foothill distribution system consists of approximately 9.5 miles of transmission mains and six storage tanks located in 3 pressure zones. Table 15 presents the six distribution system finished water reservoirs for FMWD.

Table 15
FMWD's Finished Water Reservoirs

Reservoir	Capacity (MG)
Altadena Reservoir North	1.4
Altadena Reservoir South	1.2
La Cañada Reservoir East	1.0
La Cañada Reservoir West	1.2
La Crescenta Reservoir East	1.0
La Crescenta Reservoir West	1.0

MWD is responsible for providing FMWD with water that meets all drinking water regulations contained in California's Title 22 and federal regulations contained in the Code of Federal Regulations, Volume 40, Section 141. FMWD does not provide any treatment prior to delivery of water to its customers.

A. MWD's Surface Water Supplies

MWD's supplies originate from the Colorado River and from the State Water Project. Both supplies are generally of high quality. However, both supplies face water quality challenges as described below. In the Regional UWMP prepared by MWD, the agency does not believe, however, that any of the water quality challenges described below will impact the reliability of its supplies during the next 20 years.

B. Colorado River Water (CRW)

High salinity levels represent the most serious challenge associated with the Colorado River supply. During average water years, levels of total dissolved solids (TDS) for CRW average around 650 mg/L. MWD has determined that the only foreseeable constraint to the use of Colorado River water will be the need to blend with State Water Project supplies to meet salinity standards. Other potential water quality issues for the CRW include uranium, perchlorate and hexavalent chromium as described below.

1. Uranium. A ten million ton pile of uranium mine tailings at Moab, Utah is located 600 feet from the Colorado River. Rainwater has been seeping through the pile and contaminating the local groundwater, causing a flow of contaminants into the river. The potential threat exists for rainwater to wash millions of tons of material containing uranium into the Colorado River.

Current operations and maintenance activities at the site include intercepting some of the contaminated groundwater before it discharges into the river. The interim program became fully operational in September 2003. Uranium in the range of 950 to 1,190 picoCuries per liter (pCi/L) has been measured at the seepage site in the river. Uranium measurements in the Colorado River at MWD's intake range from 1

to 5 pCi/L. The California drinking water standard for uranium is 20 pCi/L.

At the recommendation of the National Research Council, the Department of Energy (DOE) conducted a study to evaluate remediation actions and released an environmental impact statement. In July 2005 DOE agreed to move the tailings to a site 30 miles from the current location to a site in Crescent Junction, Utah. DOE plans to begin moving the uranium tailings in spring 2006. Remediation at the site will require Congressional appropriations, and maintaining congressional support for the cleanup will require close coordination and cooperation with other Colorado River users.

2. Perchlorate. Ammonium perchlorate is used in the production of solid rocket propellant, and can also be found in some types of munitions and fireworks. Ammonium perchlorate and other perchlorate salts are readily soluble in water, dissociating into the perchlorate ion (ClO-4). The perchlorate ion does not readily degrade in the environment.

CDHS adopted a notification level of 6 µg/L for perchlorate and is in the process of developing a drinking water regulation. If the current notification level is exceeded, CDHS requires that utilities inform their governing bodies, and recommends they notify consumers of perchlorate's presence in the drinking water supply and its potential adverse health effects. CDHS strongly recommends that untreated source supplies be removed if perchlorate levels exceed 60 µg/L.

Perchlorate has been detected at low levels in Metropolitan's CRW supply. The concentrations of perchlorate in Colorado River Water are currently less than California's detection limit for reporting purposes (DLR) of 4 µg/L. No perchlorate has been detected in Metropolitan's SWP supply.

MWD adopted a Perchlorate Action Plan in 2002. The Plan's objectives are to:

(1) expand monitoring and reporting programs,
(2) assess the impact of perchlorate on local groundwater supplies,
(3) continue tracking health effects studies,
(4) continue tracking remediation efforts in the Las Vegas Wash, the source of perchlorate contamination of the Colorado River,
(5) initiate modeling of perchlorate levels in the Colorado River,
(6) investigate the need for additional resource management strategies,
(7) pursue legislative and regulatory options for cleanup activities and regulatory standards,
(8) include information on perchlorate into outreach activities, and
(9) provide periodic updates to Metropolitan's board and member agencies.

The Nevada Department of Environmental Protection (NDEP) manages a comprehensive groundwater remediation program in the Henderson area. The amount of perchlorate entering the Colorado River system from Henderson has been reduced from approximately 900 lb/day in 1997 to less than 113 lb/day as of June 2005.

3. Chromium VI. Chromium can enter drinking water sources through discharges from industries, leaching from hazardous waste sites, and erosion of natural deposits. CDHS was required by law to establish an MCL for chromium VI by January 2004. This has not yet occurred. The current California MCL for total chromium (which includes chromium VI) is 0.05 mg/L. Metropolitan is participating in a Technical Work Group reviewing monitoring results and remediation plans for groundwater contaminated with chromium VI at a PG&E site adjacent to the Colorado River near Topock, California.

C. State Water Project (SWP)

SWP supplies have lower TDS concentrations when compared to the CRW supplies. Because of this, MWD blends SWP water CRW to reduce the salinity of the delivered water.

A key regulatory challenge for State Water Project supplies are the formation of disinfection byproducts. Two groups of DBPs are regulated. These are trihalomethanes and Haloacetic Acids. In addition there are MCLs for individual compounds, including bromate, which is a byproduct of ozone disinfection. Total

organic carbon (TOC) and bromide, are key precursors for the formation of DBPs when water is treated with disinfectants. Levels of TOC and bromide in Delta water supplies present significant challenges with regard to the formation of DBPs. In response to these challenges, MWD is upgrading treatment at its five treatment plants. MWD will be installing ozone contactors to provide primary disinfection and replace the use of free chlorine.

The Weymouth filtration plant has not yet received this upgraded treatment, but should within the next 4-10 years. Prior to the installation of ozone, MWD may experience limits on their ability to use SPW supplies at the Weymouth treatment plant (due to the levels of DBPs formed).

Chapter 8-

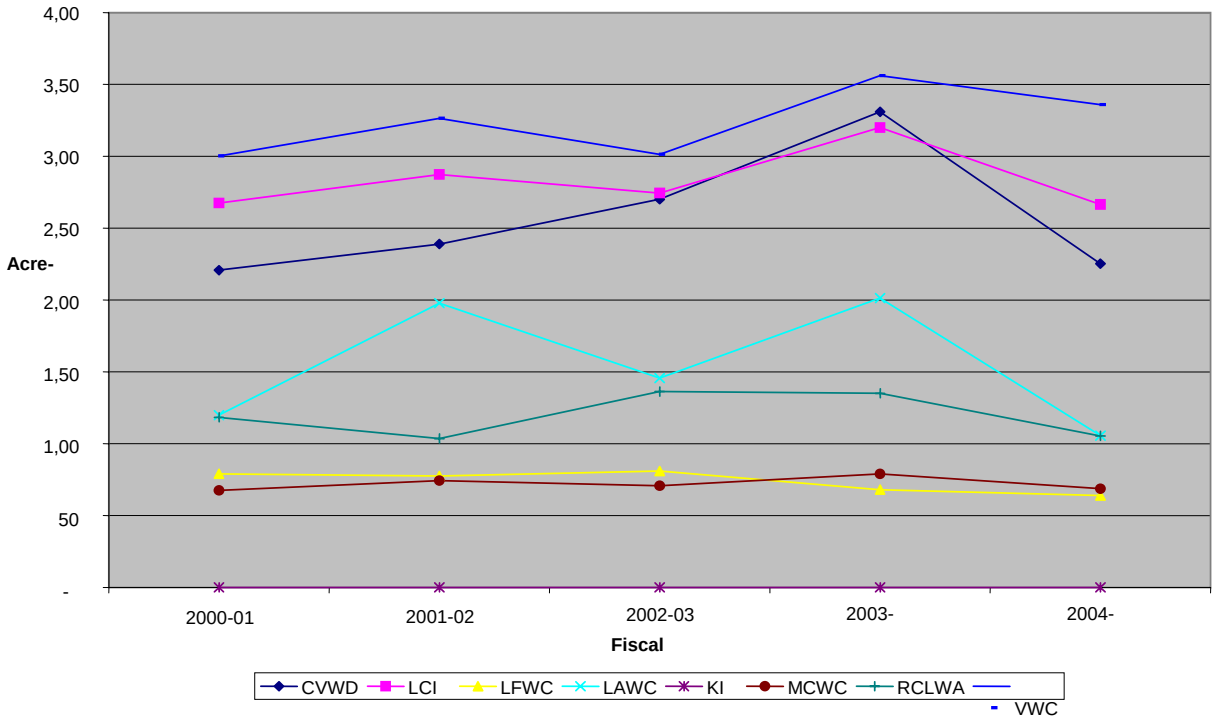
Supply and Demand Comparison Provisions

This chapter addresses water use characteristics and projected imported water demands on FMWD.

A. Water Use

Figure 4 reflects sales for the past five years to FMWD's member agencies.

Figure
Five Year Historic Sales



Please note that these figures include deliveries to individual agencies storage accounts. As can be seen, including injection water, FMWD's largest customer is Valley Water Company. The smallest customers are Mesa Crest Water Company and Las Flores Water Company. FMWD does not sell water to Kinneloa Irrigation District but expects to begin those sales after 2010.

B. Supply and Demand Comparison

Table 16 shows projected normal water year water supplies. This numbers can also be seen in Table 4. Also shown in the table are the percentages of future supplies in comparison to year 2005. Although FMWD can deliver more than what is listed, it only delivers up to its demands.

Table 16
Projected Normal Water Year Supply – AF/Y

From table 4	2010	2015	2020	2025
Supply	13,523	15,088	15,668	16,265
% of year 2005	115%	129%	134%	139%

Table 17 shows projected normal water year demand as also seen in Table 16. Also shown in the table are the percentages of future demands in comparison to year 2005.

Table 17
Projected Normal Water Year Demand – AF/Y

From table 15	2010	2015	2020	2025
Demand	13,523	15,088	15,668	16,265
% of year 2005	115%	129%	134%	139%

Table 18 compares current and projected water supply and demand. It indicates that in average precipitation years FMWD has sufficient water to meet its customers' needs, through 2025. This is based on Metropolitan's 100% reliability goal over the next ten year period (WSDM Plan) and FMWD's continued commitment to conservation programs and involvement of Raymond Basin's conjunctive use of groundwater (FHCUP).

Table 18
Projected Supply and Demand Comparison – FMWD Only

	2005	**2010**	**2015**	**2020**	**2025**
Supply totals	11,710	13,523	15,088	15,668	16,265
Demand totals	11,710	13,523	15,088	15,668	16,265
Difference	0	0	0	0	0
Units of Measure: Acre-feet/Year					

The following table shows projected single dry year water supplies. Groundwater replenishment supplies are not included in this table since it is assumed that Metropolitan would cease those optional deliveries as part of its replenishment program.

Table 19
Projected Single Dry Year Water Supply (AF/Y)

Water Supply Sources	**2005**	**2010**	**2015**	**2020**	**2025**
Purchased from Metropolitan	12,197	15,165	17,037	17,731	18,446

The following table shows projected single dry year water demands. Groundwater replenishment supplies are not included in this table since it is assumed that Metropolitan would cease those optional deliveries as part of its replenishment program and since those demands are not firm but adjustable based on supplies.

Table 20
Projected Single Dry Year Water Demand (AF/Y)

Water Supply Sources	2005	2010	2015	2020	2025
Purchased from Metropolitan	12,197	15,165	17,037	17,731	18,446

As can be seen, FMWD does not expect to have any difference between water supplies and demands during a single dry year due to Metropolitan's goal of developing supplies to meet 100% of demands 100% of the time as described in its IRP and RUWMP.

Shown below is the analysis for FMWD's supply and demand comparison for multiple dry years in five year increments. Please note that this is a worst case scenario where there is 0 runoff in the watershed in the first year of the multiple dry year and 0 runoff thereafter. Thus, the only production by the local agencies is their decreed rights from the Raymond Basin adjudication. It also does not take into account any water stored by the local agencies into individual agency accounts which may be produced at their discretion. Additionally, it is assumed that Metropolitan will cease groundwater recharge deliveries since those deliveries are at Metropolitan's option based on supplies, demands, and availability of distribution facilities. Because of the variability of groundwater recharge deliveries, they are backed out of demands as well since FMWD's member agencies use those deliveries only to build up storage in individual storage accounts which they may then produce from during a supply shortage or emergency.

Table 21
Projected Supply and Demand Comparison During Multiple Dry Year Period Ending in 2010 (AF/Y)

	2006	2007	2008	2009	2010
Supplies	12,428	14,719	15,816	16,143	16,325
Demands	12,428	14,719	15,816	16,143	16,325
Difference	0	0	0	0	0

Table 22
Projected Supply and Demand Comparison During Multiple Dry Year Period Ending in 2015 (AF/Y)

	2011	2012	2013	2014	2015
Supplies	14,581	16,971	17,959	18,138	18,321
Demands	14,581	16,971	17,959	18,138	18,321
Difference	0	0	0	0	0

Table 23
Projected Supply and Demand Comparison During Multiple Dry Year Period Ending in 2020 (AF/Y)

	2016	2017	2018	2019	2020
Supplies	15,398	17,875	18,975	19,048	19,231
Demands	15,398	17,875	18,975	19,048	19,231
Difference	0	0	0	0	0

Table 24
Projected Supply and Demand Comparison During Multiple Dry Year Period Ending in 2025(AF/Y)

	2021	2022	2023	2024	2025
Supplies	16,230	18,793	19,788	19,974	20,161
Demands	16,230	18,793	19,788	19,974	20,161
Difference	0	0	0	0	0

As can be seen, FMWD does not expect to have any differences in supplies and demands based on Metropolitan's 100% reliability goal 100% of the time as stated in its IRP and RUWMP.

Chapter 9-
Public Participation

A. Public Participation

FMWD has actively encouraged community participation in its urban water management planning efforts by encouraging attendance and participation in the Board of Directors public meetings held monthly. Notification of the public meeting for consideration of adoption of Foothill Municipal Water District's draft Urban Water Management Plan will be printed in a local newspaper. Copies of the draft plan will be available at the office. On November 16, 2005, FMWD will hold a Public Hearing to receive comments on its draft Plan. All comments received prior to and during the Public Hearing will be taken into consideration in the preparation of the final report. Comments submitted and FMWD's response to them will be incorporated into Appendix D.

1. Plan Adoption

FMWD prepared the initial draft of its Urban Water Management Plan during fall 2005. The final plan was adopted by its Board of Directors on November 16, 2005 and submitted to the California Department of Water Resources within 30 days of Board approval. Attached to the cover letter addressed to the Department of Water Resources and as Appendix B is a copy of the Resolution of Plan Adoption. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

APPENDIX A

RESOLUTION TO ADOPT THE URBAN WATER MANAGEMENT PLAN

Resolution To Adopt The Urban Water Management Plan

A RESOLUTION OF THE FOOTHILL MUNICIPAL WATER DISTRICT
ADOPTING THE 2005 URBAN WATER MANAGEMENT PLAN

WHEREAS the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS Foothill Municipal Water District (FMWD) is a wholesale supplier of water; and

WHEREAS the Plan shall be periodically reviewed at least once every five years, and that FMWD shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS the Plan must be adopted by December 31, 2005, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS FMWD has therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the Board of Directors of FMWD on November 16, 2005, and

WHEREAS FMWD did prepare and shall file said Plan with the California Department of Water Resources by December 16th 2005;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of FMWD that the 2005 Urban Water Management Plan is hereby adopted and the General Manager is hereby authorized and directed to file the 2005 Urban Water Management Plan with the California Department of Water Resources within 30 days of this date.

APPENDIX B

FMWD's WATER SHORTAGE INFORMATION

FMWD Resolution 517-0688: Adopting a Program of Voluntary Water Conservation to Reduce Water Consumption by Ten Percent

FMWD Resolution 533-0490: Adopting a Program of Voluntary Water Conservation to Reduce Water Consumption by Ten Percent

FMWD Resolution 576-0794: Advocating a Declaration for a Drought Proofing Month to Encourage the Use of Recycled Water

REFERENCES:

Water Surplus and Drought Management Plan (WSDM Plan), Report #1150, (August 1999) Metropolitan Water District

IRP (update 2003), Metropolitan Water District

Preliminary Reclamation Assessment, Morris Water Resources Consultants, (May 1996)

Final Recycled Water Feasibility Study, Bookman-Edmonston (April, 2004)

Draft Regional Urban Water Management Plan, Metropolitan (October 2005)

FMWD Unusual Occurrence Manual

FMWD's email to Metropolitan on water demand projections

Adopted 06/15/88

RESOLUTION NO. 517-068

RESOLUTION OF THE BOARD OF DIRECTORS OF THE FOOTHILL MUNICIPAL WATER DISTRICT ADOPTING A PROGRAM OF VOLUNTARY WATER CONSERVATION TO REDUCE WATER CONSUMPTION BY TEN PERCENT

WHEREAS, Foothill Municipal Water District ("Foothill") is a municipal water district organized pursuant to the provisions of California Water Code Sections 71000, et seq., and is a member agency of the Metropolitan Water District of Southern California, and is empowered to provide water service within district boundaries, and

WHEREAS, Foothill's sole source of water is that water imported from the State Water Project and the Colorado River by the Metropolitan Water District of Southern California; and

WHEREAS, because of inadequate rainfall, the State Department of Water Resources declared 1987 to be a dry year, and 1988 a critically dry year, and only the existence of water in storage has prevented the declaration of a drought year, which may nevertheless be subsequently declared if stored water falls below a critical level; and

WHEREAS, the Governor of the State of California has asked all Californians to serve water on a voluntary basis; and

WHEREAS, the critical nature of the water supply available to Foothill makes it necessary to reduce water consumption by at least ten percent in order to protect and conserve the public water supply and to lessen the demand on the remaining water in storage; and

WHEREAS, Foothill has the power and authority to adopt and enforce water conservation measures within its district boundaries pursuant to Water Code Sections 375 through 377, and Sections 71600 through 71644;

NOW, THEREFORE, the Board of Directors of the Foothill Municipal Water District resolves as follows:

1. Due to a serious statewide water shortage that exists as a result of two years of inadequate rainfall, it is necessary and in the best interests of the water users within Foothill's boundaries to conserve and protect existing water supplies against waste and unreasonable uses by implementing water conservations measures to reduce consumption by at least ten percent.

2. A phased program beginning with voluntary measures to reduce consumption will vest achieve the goal of conserving the water supply without causing unnecessary adverse economic consequences.

3. If voluntary measures to not achieve the goal of a ten percent reduction in water use, or if a drought condition is declared by the State of California, the Board will consider the adoption of a mandatory water conservation program. The staff and legal counsel are directed to prepare such a program for Board consideration.

4. The following measures are requested to be taken by all water users within Foothill's service area. The goal is to reduce individual water use by at least ten percent.

    A. Do not hose down driveways, patios, sidewalks or other paved areas. Use a broom or blower instead.

    B. Install water saving devices in indoor plumbing.

C. Where possible, install and use spa and swimming pool covers to reduce evaporation.

D. Check faucets, toilets, and pipes, both indoors and outdoors for leaks and repair them immediately.

E. Irrigate lawns and landscaping before 10:00 a.m. or after 5:00 p.m. Do not overwater.

F. Adjust sprinklers and irrigation systems to avoid overspray, run-off and waste. Avoid watering on windy days.

G. Freeway landscaping, parks, school grounds, and golf courses should not be watered between the hours of 10:00 a.m. and 5:00 P.M. Reclaimed water should be used wherever possible.

H. Do not allow the hose to run while washing the car. Use a bucket or an automatic cutoff on the hose.

I. When installing new residential landscaping, plant low water demand trees and plants. Avoid large turf areas, which consumer large quantities of water.

J. Developers of commercial and industrial properties are requested to use low water use landscaping plants and designs to provide for permanent water conservation.

5. Retailing water agencies served by Foothill are hereby urged to adopt voluntary conservation measures within their boundaries to reduce consumption by ten percent and to take immediate steps to inform their retail customers of the urgent need to conserve and protect water because of the potential critical shortage in the supplemental water supplies for their area.

6. The Board hereby directs staff to increase its public information and education measures by at least the following steps:

A. Immediately provide all retailing agencies served by the District a copy of this resolution, together with a letter signed by the General Manager explaining the Board's request that such agencies adopt similar measures.

B. Make water conservation informational material available to the District's retailing agencies and the public in general, and take steps to inform the public of the availability of such information.

Adopted 04/18/90

RESOLUTION NO. 533-0490

RESOLUTION OF THE BOARD OF DIRECTORS OF THE FOOTHILL MUNICIPAL WATER DISTRICT ADOPTING A PROGRAM OF VOLUNTARY WATER CONSERVATION TO REDUCE WATER CONSUMPTION BY TEN PERCENT

WHEREAS, Foothill Municipal Water District ("Foothill") is a municipal water district organized pursuant to the provisions of California Water Code Sections 71000, et seq., and is a member agency of the Metropolitan Water District of Southern California, and is empowered to provide water service within district boundaries, and

WHEREAS, Foothill's sole source of water is that water imported from the State Water Project and the Colorado River by the Metropolitan Water District of Southern California; and

WHEREAS, the State Department of Water Resources and the Metropolitan Water District of southern California have determined that, because of inadequate precipitation, supplies of the above mentioned imported water may be inadequate to meet normal water use needs in the ensuing months; and

WHEREAS, the critical nature of the water supply available to Foothill makes it necessary to reduce water consumption by at least ten percent in order to protect and conserve the public water supply and to lessen the demand on the remaining water in storage; and

WHEREAS, Foothill has the power and authority to adopt and enforce water conservation measures within its district boundaries pursuant to Water Code Sections 375 through 377, and Sections 71600 through 71644;

NOW, THEREFORE, the Board of Directors of the Foothill Municipal Water District resolves as follows:

1. Due to a serious statewide water shortage that exists as a result of four years of inadequate precipitation, it is necessary and in the best interests of the water users within Foothill's boundaries to conserve and protect existing water supplies against waste and unreasonable uses by implementing water conservations measures to reduce consumption by at least ten percent.

2. A phased program beginning with voluntary measures to reduce consumption will vest achieve the goal of conserving the water supply without causing unnecessary adverse economic consequences.

3. If voluntary measures to not achieve the goal of a ten percent reduction in water use, or if a drought condition is declared by the State of California, the Board will consider the adoption of a mandatory water conservation program. The staff and legal counsel are directed to prepare such a program for Board consideration.

4. The following measures are requested to be taken by all water users within Foothill's service area. The goal is to reduce individual water use by at least ten percent.

   A. Do not hose down driveways, patios, sidewalks or other paved areas. Use a broom or blower instead.

   B. Install water saving devices in indoor plumbing.

   C. Where possible, install and use spa and swimming pool covers to reduce evaporation.

   D. Check faucets, toilets, and pipes, both indoors and outdoors for leaks and repair them

immediately.

E. Irrigate lawns and landscaping before 10:00 a.m. or after 5:00 p.m. Do not overwater.

F. Adjust sprinklers and irrigation systems to avoid overspray, run-off and waste. Avoid watering on windy days.

G. Freeway landscaping, parks, school grounds, and golf courses should not be watered between the hours of 10:00 a.m. and 5:00 P.M. Reclaimed water should be used wherever possible.

H. Do not allow the hose to run while washing the car. Use a bucket or an automatic cutoff on the hose.

I. When installing new residential landscaping, plant low water demand trees and plants. Avoid large turf areas, which consumer large quantities of water.

J. Developers of commercial and industrial properties are requested to use low water use landscaping plants and designs to provide for permanent water conservation.

5. Retailing water agencies served by Foothill are hereby urged to adopt voluntary conservation measures within their boundaries to reduce consumption by ten percent and to take immediate steps to inform their retail customers of the urgent need to conserve and protect water because of the potential critical shortage in the supplemental water supplies for their area.

6. The Board hereby directs staff to increase its public information and education measures by at least the following steps:

A. Immediately provide all retailing agencies served by the District a copy of this resolution, together with a letter signed by the General Manager explaining the Board's request that such agencies adopt similar measures.

B. Make water conservation informational material available to the District's retailing agencies and the public in general, and take steps to inform the public of the availability of such information.

Adopted 07/20/94

RESOLUTION NO. 576-0794

A RESOLUTION OF THE FOOTHILL MUNICIPAL WATER DISTRICT ADVOCATING A DECLARATION FOR A DROUGHT PROOFING MONTH TO ENCOURAGE THE USE OF RECYCLED WATER

WHEREAS, the California Department of Water Resources has declared an official “drought watch” because of low snow-fall during the 1993-94 Winter season; and

WHEREAS, various Southern California water utilities have entered into a partnership to drought-proof their communities through construction of recycled water treatment facilities and pipelines; and

WHEREAS, environmental organizations, taxpayers groups, Chambers of Commerce, and local leaders support the partnership to drought-proof our communities; and

WHEREAS, recycled water produced by these partnerships meets stringent state and federal safety requirements; and

WHEREAS, recycled water may make rationing unnecessary in the event of drought, thus preserving jobs which sustain our economy, as well as the beauty of our communities through a plentiful supply of water.

NOW, THEREFORE, BE IT PROCLAIMED, that the Foothill Municipal Water District endorses the declaration of a summer month as a “Drought Proofing Month”, encouraging all industrial customers and irrigators to use recycled water in an effort to prevent rationing and loss of jobs in the event of a continuing drought in 1995.

APPENDIX C

Reserve Policy

A RESOLUTION OF THE BOARD OF DIRECTORS OF
FOOTHILL MUNICIPAL WATER DISTRICT
ESTABLISHING A POLICY FOR FUNDING RESERVES

WHEREAS, the prudent management of Foothill Municipal Water District (FMWD) requires that reserve funds be established and maintained to fund scheduled and unscheduled expenses including operation and maintenance, stabilization of water rates; emergencies, repairs and replacement, and capital improvement and;

WHEREAS, FMWD desires to adopt a formal reserve policy, identifying the amount of funds specifically dedicated to each purpose and providing periodic review of the reserve funding levels to ensure they will be adequate to meet the current and projected needs of FMWD; and

WHEREAS, the priority for funding the reserves is in the order presented below; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Foothill Municipal Water District that reserve funds be established for the purposes and to be funded as follows:

1. OPERATING RESERVE. This reserve funds three months of General and Administrative expenses up to a maximum of $2,000,000 to cover payroll, employee expenses and partial MWD payments. This reserve also funds emergency repairs up to 50% of the fund balance of $1,000,000, whichever is less.

2. WATER RATE STABILIZATION. This reserve funds up to $500,000 to cover fluctuations in the cost of water.

3. REHABILITATION AND REPLACEMENT. This reserve funds scheduled and unscheduled repairs and replacements of assets. This level of reserve is based on the balance of the funds not otherwise allocated. The maximum balance should not exceed $2,000,000.

4. CAPITAL IMPROVEMENT. This reserve funds up to $1,500,000 of capital projects under the planning budget and is used in conjunction with outside funding. Studies that will produce projects in terms of facilities, pipelines, reservoirs, and pump stations are funded from this reserve.

The General Manager is authorized and directed to take such actions as necessary to set up and fund the reserve fund accounts established herein.

AND FURTHER, the above reserve policy supersedes Resolution No. 619-0198 and the motion made 11/93 establishing desired levels of reserve working capital.

APPENDIX D

Comments and Responses on Urban Water Management Plan

None Received

APPENDIX E

DWR Checklist

Coordination with Appropriate Agencies
(Water Code § 10620 (d)(1)(2))

Participated in area, regional, watershed or basin wide plan
See Chapter 1, page 1 and Table 1
Describe the coordination of the plan preparation and anticipated benefits.
See Chapter 1, page 1 and Table 1

Describe resource maximization / import minimization plan
(Water Code §10620 (f))

Describe how water management tools / options maximize resources & minimize need to import water
See Chapter 2

City and County Notification and Participation
(Water Code § 10621(b))

Notify any city or county within service area of UWMP of plan review & revision
Consult and obtain comments from cities and counties within service area
In Chapter 1, Section B., Foothill obtained information from its member agencies and from Metropolitan Water District. Table 1 lists the agencies that received copies of the draft and also a notice of intention to adopt. In addition, a Notice of Public Hearing was printed in the Pasadena Star News notifying the public of the Public Hearing and scheduling for adoption of the plan on November 16, 2005. Draft copies of the Plan were also available at the Altadena Public Library and the La Cañada Flintridge Public Library.

Service Area Information
Water Code § 10631 (a))

Include current and projected population
See page 4
Population projections were based on data from state, regional or local
Agency
See page 4
Describe climate characteristics that affect water management
See Climate, page 4, 5
Describe other demographic factors affecting water management
See page 5

Water Sources
(Water Code § 10631 (b))

Identify existing and planned water supply sources
See page 7, Imported Water
Provide current water supply quantities
See Table 4
Provide planned water supply quantities
See page 8; Regional Water supply Program

If Groundwater identified as existing or planned source
(Water Code §10631 (b)(1-4))
Foothill does not supply groundwater but it is addressed on page 9

Reliability of Supply
(Water Code §10631 (c) (1-3)

Describes the reliability of the water supply and vulnerability to seasonal or climatic shortage
See Chapter 5, pages 18-20
Basis of Water Year data
See Table 6, page 8.

Water Sources Not Available on a Consistent Basis
(Water Code §10631 (c))

Describe the reliability of the water supply due to seasonal or climatic shortages
Describe the vulnerability of the water supply to seasonal or climatic shortages
MWD's water supply reliability can be considered 100% reliant to its member agencies based on MWD's Capital Improvement Plan and IRP.

Transfer or Exchange Opportunities
(Water Code §10631 (d))

Describe short term and long term exchange or transfer opportunities
See page 10

Water Use Provisions
(Water Code §10631 (e)(1)(2))

Quantify past water use by sector
See page 11
Quantify current water use by sector
See page 11
Project future water use by sector
See page 11
Identify and quantify sales to other agencies
See Table 7, page 11

2005 Urban Water Management Plan "Review of BMPs for Completeness" Form
(Water Code §10631 (f)
See Chapter 3

Planned Water Supply Projects and Programs, including non-implemented BMPs
(Water Code §10631 (g))
See page 16

Planned Water Supply Projects and Programs
(Water Code §10631 (h))

Detailed description of expected future supply projects & programs
See Chapter 4, page 17
Timeline for each proposed project
See Chapter 4, page 17
Quantification of each projects normal yield (AFY)
See Chapter 4, page 17
Quantification of each projects single dry-year yield (AFY)
See Chapter 4, page 17
Quantification of each projects multiple dry-year yield (AFY)
See Chapter 4, page 17

Opportunities for development of desalinated water
(Water Code §10631 (i))

Describes opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply
See Desalination, page 17

District is a CUWCC signatory
(Water Code § 10631 (j))

Agency is a CUWCC member
See page 13
2003-04 annual updates are attached to plan
See Appendix F
Both annual updates are considered completed by CUWCC website
The latest BMP reported as approved by CUWCC is attached as Appendix F.

Water Shortage Contingency Plan Section
(Water Code § 10632)
Stages of Action
(Water Code § 10632 (a))

Provide stages of action
Provide the water supply conditions for each stage
Includes plan for 50 percent supply shortage
See Chapter 5

Three-Year Minimum Water Supply
(Water Code §10632 (b))

Identifies driest 3-year period
Minimum water supply available by source for the next three years
See Chapter 9

Preparation for catastrophic water supply interruption
(Water Code §10632 (c))

Provided catastrophic supply interruption plan
Regional power outage
Earthquake
See page 21; reference FMWD's Unusual Occurrence Manual

Prohibitions
(Water Code § 10632 (d))

List the mandatory prohibitions against specific water use practices during water shortages
Appendix B

Consumption Reduction Methods
(Water Code § 10632 (e))
Penalties

List the consumption reduction methods the water supplier will use to reduce water use in the most restrictive stages with up to a 50% reduction.
See Chapter 5, page 24

Penalties
(Water Code § 10632 (f))

List excessive use penalties or charges for excessive use
See page 24; however not applicable to FMWD

Revenue and Expenditure Impacts

(Water Code § 10632 (g))

Describe how actions and conditions impact expenditures
See page 25
Describe how actions and conditions impact revenues
See page 25
Describe measures to overcome the revenue and expenditure impacts
See page 25

Water Shortage Contingency Ordinance/Resolution
(Water Code § 10632 (h))

Attach a copy of the draft water shortage contingency resolution or ordinance.
See page 23 and Appendix B. Also, not applicable to FMWD. MWD's WSDM plan adopted to deal with shortages.

Reduction Measuring Mechanism
(Water Code § 10632 (i))

Provided mechanisms for determining actual reductions
See page 24.

Recycling Plan Agency Coordination
Water Code § 10633

Describe the coordination of the recycling plan preparation information to the extent available...
See Chapter 6

Wastewater System Description
(Water Code § 10633 (a))

Describe the wastewater collection and treatment systems in the supplier's service area
Quantify the volume of wastewater collected and treated
Although wastewater collection and treatment systems are not applicable to FMWD since we do not use recycled water as a supply.

Wastewater Disposal and Recycled Water Uses
(Water Code § 10633 (a - d))

Describes methods of wastewater disposal
Describe the current type, place and use of recycled water
Describe and quantify potential uses of recycled water
Determination of technical and economic feasibility of serving the potential uses
See Chapter 6

Projected Uses of Recycled Water
(Water Code § 10633 (e))

Projected use of recycled water, 20 years
See Chapter 6
Compare UWMP 2000 projections with UWMP 2005 actual
See Page 26

Plan to Optimize Use of Recycled Water
(Water Code § 10633 (f))

Describe actions that might be taken to encourage recycled water uses
Describe projected results of these actions in terms of acre-feet of recycled water used per year
Provide a recycled water use optimization plan which includes actions to facilitate the use of recycled water (dual distribution systems, promote recirculating uses)
See Chapter 6, pages 26 - 27

Water quality impacts on availability of supply

(Water Code §10634)

Discusses water quality impacts (by source) upon water management strategies and supply reliability

See Chapter 7

Supply and Demand Comparison to 20 Years
(Water Code § 10635 (a))

Compare the projected normal water supply to projected normal water use over the next 20 years in 5-year increments

See Table 15 and Table 7

Supply and Demand Comparison: Single-dry Year Scenario
(Water Code § 10635 (a))

Compare the projected single-dry year water supply to projected single-dry year water use over the next 20 years in 5-year increments

See Table 18

Supply and Demand Comparison: Multiple-dry Year Scenario
(Water Code § 10635 (a))

Project a multiple-dry year period occurring between 2006-2010 and compare projected supply and demand during those years

See Table 20

Project a multiple-dry year period occurring between 2011-2015 and compare projected supply and demand during those years

See Table 21

Project a multiple-dry year period occurring between 2016-2020 and compare projected supply and demand during those years

See Table 22

Project a multiple-dry year period occurring between 2021-2025 and compare projected supply and demand during those years

See Table 23

Review of implementation of 2000 UWMP
(Water Code § 10643

All BMPs implemented in 2000 are still implemented with the addition of additional programs through MWD.

BMP Programs

See Chapter 3 and Appendix F

APPENDIX F

2003-2004 Annual CUWCC Update